

FAST ACQUISITION OF TIMING AND  
CARRIER FREQUENCY FROM RECEIVED SIGNAL

ABSTRACT OF THE DISCLOSURE

- 5           A method and apparatus for determining the symbol timing and carrier frequency  
of a digitized input signal is disclosed. In one embodiment, the method comprises the  
steps of computing a temporally varying magnitude of the input signal, determining a  
frequency domain representation of the computed magnitude of the input signal,  
identifying a spectral component at a symbol frequency  $f_s$  away from a DC component  
10 of the frequency domain representation of the computed magnitude of the input signal,  
the spectral component having a magnitude and a phase, and determining the symbol  
timing phase of the input signal from the phase of the spectral component.

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